

Appl. No.: 10/700,233
Amdt. Dated: December 21, 2007
Reply to Final Office Action of 06/21/2007

REMARKS / ARGUMENTS

For the convenience of the Examiner and clarity of purpose, Applicant has reprinted the substance of the Office Action in ***10-point bolded and italicized font***. Applicant's arguments immediately follow in regular font.

1. All outstanding objections and rejections, except for those maintained below, are withdrawn in light of applicant's amendment filed on 4/2/2007.

Applicant thanks the Examiner for the withdrawal of the previous objections and rejections, in view of the amendment filed on April 2, 2007.

Claim Objections

4. Claims 4-8 are objected to for the reasons given in paragraph 4 of Office action mailed 11/2/2006. The examiner's position remains that there is not full antecedent basis for the term "the alicyclic carboxylic acid anhydride" and "the aromatic carboxylic acid anhydride". While it is clear to what these refer (hence, no 35 USC 112, 2nd paragraph rejection for being indefinite), these claims do not have full antecedent basis as recited in independent claim 1.

Applicant thanks the Examiner for her observations. With regard to the Examiner's objections to pending claims 4-6 and 7-8 for their use of the terms "the alicyclic acid anhydride" and "the aromatic acid anhydride", Applicant respectfully disagrees with the Examiner's suggestion that these claims lack proper antecedent basis. Applicant again directs the Examiner's attention to pending independent claim 1, upon which the claims in question ultimately depend from. In particular, Applicant maintains that the last portion of pending independent claim recites, in part, "wherein at least one of the two or more carboxylic acid anhydrides is an aromatic acid anhydride and at least one of the other carboxylic acid anhydrides

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is an alicyclic acid anhydride” (emphasis added). Consequently, as pending claim 1, upon which claims 4-6 and 7-8 depend, provides the limitation which is clearly referenced in the dependent claims in question, this rejection is believed to be in error.

Reconsideration and withdrawal of these objections is respectfully requested. In the event that the Examiner does not agree with Applicant on this issue, Applicant respectfully requests the Examiner to provide suggested language corrections by which these objections may be remedied.

Claim Rejections - 35 USC § 103

5. *Claims 1, 4-11, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al (JP 05-238799, machine translation) in view of Wooster et al (US 3,341,555) and Inoue (US 5,422,391).*

Sasaki et al discloses an epoxy resin composition for artificial marble comprising an epoxy resin, a carboxylic anhydride (paragraph 0007), and an inorganic filler (paragraph 0009), wherein the composition is heated to cure and hardened the composition (paragraph 0010).

Sasaki et al fails to disclose (a) two or more carboxylic acid anhydride with at least one being an aromatic acid anhydride and at last one being an alicyclic acid anhydride and a heat activated catalyst and (b) a mixture of inorganic fillers with specific particle diameters.

With respect to (a), Sasaki et al discloses of use of both aromatic and alicyclic carboxylic acid anhydrides.

Wooster et al discloses a mixture of carboxylic acid anhydrides for use as a curing agent in epoxy resins comprising hexahydrophthalic anhydride, tetrahydrophthalic anhydride, and phthalic anhydride (col. 7, lines 1 -14), wherein this mixture provides for a stable homogeneous liquid composition at ambient temperatures (col. 2, lines 21-50) which is just as effective as other anhydrides (col. 3, lines 3-13). The addition of other cyclic anhydrides such as methyltetrahydrophthalic acid are also taught (col. 4, line 50). Wooster et al further teaches suitable amines as cure activator (col. 4, line 60 to col. 5, line 6), which include polyamines and imidazoles, and are activated upon heating. Note col. 5, lines 48-50 where a mixture of hexahydrophthalic anhydride, tetrahydrophthalic anhydride, and phthalic anhydride flakes is exemplified.

Given that Sasaki et al teaches the use of carboxylic acid anhydrides in an epoxy composition and further given the teachings by Wooster et al regarding the benefits had by using a mixture of aromatic and alicyclic acid anhydrides as hardeners, it would have been obvious to one of ordinary skill in the art to utilize a mixture of acid anhydrides as the hardener of Sasaki to

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obtain a more stable homogeneous liquid composition at ambient temperatures.

With respect (b), Sasaki et al teaches the use of fillers such as glass powder.

Inoue discloses a high density artificial stone composition and teaches that using a mixture of fine (10-70 mesh, >.210 microns) and very fine particles (well above 100 mesh, < 149 microns) is advantageously used in order to form a skeletal structure that binds all the components to an entirety, giving resiliency or tensile strength to the end product where the artificial stone is finally produced (col. 4, lines 8-12). The fine particle include natural stone chips (col. 3, lines 46-51).

Given that Sasaki et al teaches a composition for use in artificial marble which contains inorganic fillers and further given that Inoue teaches that improved properties are had by using two sizes of inorganic fillers like presently claimed -in an artificial stone composition, it would have been obvious to one of ordinary skill in the art to utilize two fillers with the presently claimed particle diameters.

Applicant respectfully traverses the Examiner's rejection of claims 1, 4-11, and 37. According to MPEP § 706.02(j), for a claim to be obvious, there must be a) a suggestion or motivation to combine reference teachings, b) a reasonable expectation of success, and c) the references must teach all of the claim limitations, *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). Without acceding to the Examiner's characterization of what the cited art teaches or suggests, Applicant contends that the Examiner has not identified any teaching or suggestion with Sasaki, Wooster, and/or Inoue for combining the references in the manner suggested. Further, Applicant contends that none of the cited art, alone or in combination, describe, suggests or teaches the curable resinous compositions described in the presently amended claims.

Without acceding to the Examiner's characterization of Japanese Patent Publication No. 05-238799 (hereinafter, 'Sasaki'), or the level of ordinary skill in the art, Sasaki describes only an epoxy resin composition for use in forming artificial marble which can be molded. As described therein, the epoxy resin composition includes an epoxy resin having 150-350 average

epoxy equivalents, a carboxylic anhydride, a quaternary phosphonium salt, and an inorganic filler in an amount of from 100-500 wt. % of the total weight of the resin and anhydride (Abstract, paragraph [0004]. Notably, the products produced using the compositions and methods of Sasaki require extended (e.g., 70 hours + ; paragraph [0014]) setting times, as well as requiring heating and pressure-treatment steps following first only half-solidifying the resin mixture, in order to generate a final artificial marble product (example 1, paragraph [0011]). Applicant's instant composition is a pourable resin composition that does not use heat or pressure as described in Sasaki, nor does it require such extended setting times. Additionally, Applicant's instantly claimed composition as recited in independent claim 1 (upon which claims

With regard to Wooster et al. (U.S. Patent No. 3,341,555, hereinafter 'Wooster'), Applicant again does not accede to the Examiner's characterization of what Wooster teaches, nor the Examiner's characterization of the level of ordinary skill in the art, and reserves the right to challenge those characterizations in the future. Wooster describes liquid dicarboxylic acid anhydride compositions which, among other things, comprise *essentially* cyclic anhydrides of polycarboxylic acids in the form of stable homogeneous liquids which are freeze-thaw resistant, and which when frozen will revert to their original homogenous liquid state upon warming to about 20-30 °C (column 2, lines 21-31; emphasis added), as well as processes for preparing such compositions. The compositions of Wooster are also described to contain a stabilizing agent which is specifically described to be "the reaction product of equimolar quantities of a tertiary amine and a polycarboxylic acid anhydride" as a tertiary amine-anhydride complex, which obviates the need for the use of accelerators, and which prevents having to preheat the anhydride

to an elevated temperature in order to keep the curing mass in the liquid phase. In fact, Wooster specifically suggests against any improvements or modifications to higher-temperature epoxy resin mixtures, and focuses on those compositions which can simultaneously handle low temperatures and then be handled at ambient temperature. Applicants pending independent claim 1 (and claims 4-11, and 37 dependent thereon) does not describe or contemplate the compositions and methods of blending described and claimed by Wooster. Additionally, and contrary to the Examiner's assertions, there is no suggestion, inherently or otherwise, by Wooster to combine with or modify the teachings of Sasaki or Inoue, alone or in combination, so as to obtain the Applicants instant invention as currently described and claimed. Consequently, Wooster is clearly not applicable to the Applicant's instantly-claimed compositions and products.

Without acceding to the Examiner's characterization of Inoue describes a high-density artificial stone that consists of thermosetting resins, 10 – 70 mesh [2 mm - 211 mm] inorganic “fine” particles from natural stone, ceramics, etc. which are mixed with 100 mesh (150 mm) or above “very fine” inorganic particles (such as CaCO_3 or Al_2O_3) in a weight ratio ranging from 0.5 : 1 to 5 : 1 (abstract; column 3, lines 45-55; column 4, lines 1-7), such that the particles account for at least 85% of the weight of the final product (column 4, lines 33-38). As specifically stated by Inoue, “[i]f the ratio is less than 85%, the end product is too soft, and has a poor property as stone”. (Column 4, lines 37-38). In stark contrast, Applicants instantly claimed curable resinous composition, such as recited in independent claim 1, comprises at least one inorganic filler (C) having a particle diameter size ranging from about 10 to about 40 microns (0.01 mm – 0.04 mm), and at least one inorganic filler (D) having a particle size greater than

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about 90 microns (0.09 mm), wherein the ratio of inorganic filler (C) to inorganic filler (D) is 7 : 1 to 1 : 1.5 (page 6, lines 17-18). Thus, Applicant's instantly claimed composition has non-equivalent particle sizes, with the smallest particles used by the Applicants being on the order of at least 5 times smaller in average diameter. Further, the composition described and claimed by Inoue has a much greater percent filler total by weight than Applicant's composition, making it less pourable and consequently resulting in it having diminished physical characteristics. Consequently, one of skill in the art, upon combining Inoue in the manner suggested by the Examiner, would not obtain a product equivalent to that described and claimed by the Applicant.

Accordingly, in view of the these distinctions, Applicant requests that the rejection of claims 1, 4-11, and 37 under 35 U.S.C. § 103 be withdrawn.

6. Claims 2,3, 12, 15-31, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al (JP 05-238799, machine translation) in view of Wooster et al (US 3,341,555) and Inoue (US 5,422,391) and further in view of Traverso et al (US 5,280,051).

The discussion with respect to Sasaki et al, Wooster et al, and Inoue in paragraph 5 above is incorporated here by reference.

While Sasaki et al and Inoue discloses useful fillers in the artificial stone composition, they fail to disclose the use of granite chips or sand. Note that Inoue discloses the use of Traverso et al discloses artificial marble and granite compositions and teaches that useful fillers include granite and silica sand (col. 2, lines 41-47).

Given that Traverso et al discloses the use of known fillers in artificial marble and granite compositions, it would have been obvious to one of ordinary skill in the art to utilize sand and granite chips as the inorganic fillers in the artificial marble composition of Sasaki et al. Case law holds that the selection of a known material based on its suitability for its intended use supports prima facie obviousness. Sinclair & Carroll Co vs. Interchemical Corp., 325 US 327,65 USPQ 297 (1045).

Applicant respectfully traverses this rejection. Additionally, Applicant does not accede to the Office's characterization of any of the Sasaki, Wooster, Inoue and/or Traverso references as applied to claims 2, 3, 12, 15-31 and 37, and respectfully reserves its right to

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challenge those characterizations in the future. Further, Applicant does not accede to the Office's characterization of the level of one of ordinary skill in the art, and reserves its right to challenge such characterization in the future.

First, Sasaki, Wooster, and Inoue have been described and distinguished over the instant application above with respect to claims 1, 4-11, and 37, and thus dependent claims 2, 3, 12, 15-17 and 37 are believed to be allowable by depending from an allowable claim. These distinctions are similarly believed to apply to independent claims 18, 27, 29 and 32 as well, and thus for at least these reasons claims 15-31 are believed to be distinguishable over at least Sasaki, Wooster and Inoue as described previously.

Further, and without acceding to the Examiner's characterization of U.S. Patent No. 5,280,051 to Traverso *et al* (hereinafter 'Traverso'), or the level of one of ordinary skill in the art, this patent describes only a composition for artificial marble or granite products for use in outdoor (exterior) settings and having a polyol and a mineral filler, wherein the mineral filler is described to be comprised of at least 50-80% by weight of particles having a particle size greater than 0.5 mm (greater than 500 microns) in size (abstract, column 2, lines 20-22). Applicants instantly claimed invention comprises inorganic fillers having a particle diameter size from about 10 to about 40 microns (about 0.01-0.04 mm), a particle size that is at least five times less than that described and required by Traverso. Thus, the combination of Traverso in the manner suggested by the Examiner would not generate a product having the same physical properties, and which would not be suitable for use as a countertop as the Applicant's claimed composition is.

Additionally, the combination of Sasaki, Wooster, Inoue and Traverso as suggested by the Examiner is inappropriate, and would not teach the Applicant's instant invention, as such a combination would generate only a non-pourable resinous product having different physical properties, such as lower tensile strengths, compressive strengths, and bending strengths—a product that is not the same as, or equivalent to, the present invention.

Accordingly, in view of the these distinctions, Applicant requests that the rejection of claims 2, 3, 12, 15-31 and 37 under 35 U.S.C. § 103 be withdrawn.

7. Claims 32 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al (JP 05-238799, machine translation) in view of Wooster et al (US 3,341,555) and Inoue (US 5,422,391) and further in view of Platka et al (US 4,244,993).

The discussion with respect to Sasaki et al, Wooster et al, and Inoue in paragraph 5 above is incorporated here by reference.

Sasaki et al does not disclose the use of its artificial marble composition in a countertop.

Platka et al teaches that synthetic marble products are well recognized in the art and include countertops (col. 1, lines 25).

Given that Sasaki et al teaches an artificial marble composition and further given that Platka et al teaches that synthetic marble products include countertops, it would have been obvious to one of ordinary skill in the art to utilize the marble composition of Sasaki et al in a countertop as taught by Platka et al.

Applicant respectfully traverses the Examiner's rejection of claims 32 and 36. First, claims 32 and 36 depend, ultimately, from independent claim 1, which has been distinguished supra, and is believed to be allowable. Consequently, claims 32 and 36 are believed to be allowable by depending from an allowable independent claim.

Additionally, with regard to the Examiner's suggestions regarding the combination of Sasaki and Platka as detailed in the Action, the Sasaki, Wooster, and Inoue references have been described and distinguished from the Applicant's instant invention above. Applicant agrees with

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the Examiner that at least Sasaki does not disclose the use of artificial marble compositions in the preparation of countertops and the like.

Without acceding to the Examiner's characterizations of Platka (U.S. Patent No. 4,244,993), or the Examiner's characterization of "one of ordinary skill in the art", Platka describes and claims methods for the manufacture of simulated marble and onyx products, which method includes the process of applying and re-applying a resin/filler composition over a pre-formed mold, such as that for a sink. The method specifically described involves spraying (one or more times) a resin/filler composition over a mold, and after the requisite number of layers of the resin/filler composition have been applied, curing the product in an oven for a period of time, typically greater than an hour. This overall process appears to take an extended period of time, e.g., greater than 1 day, whereas Applicant's instant process takes less than 1 day to perform in order to create a counter-top product.

Applicant's invention has been described in detail above. As mentioned previously, Applicant's compositions are too thick to be sprayed onto molds in manners such as described by Platka. Further, Applicant's instant invention has been distinguished over Sasaki, and thus in the event that one were to make the combination suggested by the Examiner, such a composition and product formed would not be the same as, or equivalent to, that which would result from the compositions and methods described herein.

Consequently, claims 32 and 36 are likewise believed to be patentable over Sasaki, Wooster, Inoue, , or Platka, alone or in combination, as none of the cited art references teach or

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suggest a combination which would result in Applicants currently pending claims being obvious.

Reconsideration is respectfully requested.

8. Claims 34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al (JP 05-238799, machine translation) in view of Wooster et al (US 3,341,555) and Inoue (US 5,422,391) and further in view of Traverso et al (US 5,280,051) and Platka et al (US 4,244,993).

The discussion with respect to Sasaki et al, Wooster et al, Inoue, and Traverso et al in paragraph 6 above is incorporated here by reference.

Sasaki et al does not disclose the use of its artificial marble composition in a countertop.

Platka et al teaches that synthetic marble products are well recognized in the art and include countertops (col. 1, lines 25).

Given that Sasaki et al teaches an artificial marble composition and further given that Platka et al teaches that synthetic marble products include countertops, it would have been obvious to one of ordinary skill in the art to utilize the marble composition of Sasaki et al in a countertop as taught by Platka et al.

Applicant respectfully traverses this rejection of claims 34 and 36. As detailed above, and as stated by the Examiner, Applicant contends that Sasaki does not disclose or teach the features recited in pending claims 34 or 36, in particular the use of artificial marble compositions in a countertop. As discussed previously herein, and according to MPEP § 706.02(j), for a claim to be obvious, there must be a) a suggestion or motivation to combine reference teachings, b) a reasonable expectation of success, and c) the references must teach all of the claim limitations, *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q. 1438 (Fed. Cir. 1991). The Examiner has not identified any teaching or suggestion with Sasaki, Wooster, Inoue, Traverso, or Platka for combining the references in the manner suggested by the Examiner, which would result in the Applicants instant invention.

First, for at least the reasons discussed above with respect to independent claims 1 and 18, upon which claims 34 and 36 reference, these claims have been distinguished over the cited references. Consequently, claims 34 and 36 are likewise believed to be patentable over Sasaki,

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Wooster, Inoue, Traverso, or Platka, alone or in combination, as none of the cited art references teach or suggest a combination which would result in Applicants currently pending claims being obvious. Therefore, Applicant does not accede to the Office's characterization of any of Sasaki, Wooster, Inoue, Traverso, or Platka as applied to claims 34 and 36, or the Examiner's characterization of one of skill in the art, and respectfully reserves its right to challenge that characterization in the future. Additionally, it is believed that claim 36 is allowable by depending on an allowable independent claim.

Accordingly, in view of the above distinguishing arguments, and in view of claims 32 and 36 reference to independent claims 1 and 18 which have been distinguished over the cited references previously herein, Applicant requests that the rejection of claims 9-11 under 35 U.S.C. § 103 be withdrawn.

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CONCLUSION

Of the pending claims in this application, no claims have been amended herein, no claims have been cancelled, and no new claims have been added. With this response, claims 1-12 and 15-32, 34, and 36-37 remain pending in this application. Applicant respectfully submits that each claim is patentable, as detailed herein. A notice of allowance is respectfully requested.

In a separate document, filed concurrently, Applicant has filed a Request for Continued Examination, in view of the fact that the initial Response to this Action, filed on September 21, 2007, has apparently not been received by the office. The Office is authorized to deduct the required \$405.00 small-entity fee associated with the filing of an RCE from Locke Lord Bissell & Liddell LLP deposit account No. 12-1322, referencing matter No. 019377-00100.

In a separate petition for extension of time, Applicant has requested and paid the \$525.00 small-entity fee for securing a 3-month extension of time for response making this response due December 21, 2007. Applicant does not believe that any additional fees are due at this time. However, should any additional fees under 37 C.F.R. §§ 1.16 to 1.21 be required for any reason relating to this document, the Commissioner is hereby authorized to deduct the requisite fees necessary to make this and related papers timely and effective from Locke Lord Bissell & Liddell LLP Deposit Account No. 12-1322, referencing matter number 0019377-00100.

Applicant thanks the Examiner for her consideration and effort on this matter and submits that this application is now in condition for allowance. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

In order to expedite matters on this case, the Examiner is encouraged to contact the undersigned directly in order to advance this application toward allowance.

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Respectfully submitted,

By: /Monte R. Rhodes/
Monte R. Rhodes, Ph.D.
Reg. No. 54,396
Customer No.: 022904
AGENT FOR ASSIGNEE
LABORATORY TOPS, INC.

LOCKE LORD BISSELL & LIDDELL LLP
3400 JPMORGAN CHASE TOWER
600 TRAVIS STREET
HOUSTON, TX 77002-3095
TEL: (713) 226-1326

12/21/07

DATE